What is claimed is:

1. An audio signal processing device, which performs virtual acoustic image localization processing such that an acoustic image is localized at an arbitrary position in the vicinity of the listener, by reproducing, by means of headphones or a plurality of speakers, output signals resulting from signal processing of input audio signals; comprising

digital signal processing means which performs virtual acoustic image localization processing of said input audio signals;

an A/D converter which converts into digital signals the analog detection signals from a sensor which detects the state of motion of said listener; and,

control means which performs control so as to change and output in realtime the transmission characteristics of said digital signal processing means, according to output signals from said A/D converter; wherein

at least part of said A/D converter is comprised within said digital signal processing means.

2. The audio signal processing device according to Claim 1, wherein said A/D converter consists of a one-bit A/D converter which converts input analog signals into one-bit digital signals.

3. The audio signal processing device according to Claim 2, wherein said A/D converter is $\Delta\Sigma$ type A/D converter.

4. The audio signal processing device according to

Claim 2, wherein said one-bit A/D converter consists of a quantizer, and analog detection signals from said sensor are directly input to this quantizer.

5. The audio signal processing device according to Claim 1, wherein output signals of said A/D converter, or control signals from said control means, can be output to external equipment.

6. The audio signal processing device according to Claim 1, wherein output signals of said A/D converter can be output to external equipment as digital detection signals converted into a different unit system.

7. The audio signal processing device according to Claim 1, wherein said sensor is a piezoelectric vibratory gyroscope which is an angular velocity sensor.

8. The audio signal processing device according to Claim 1, wherein said sensor is a geomagnetic direction sensor.

9. The audio signal processing device according to Claim 1, wherein said sensor is an inclination sensor.

10. The audio signal processing device according to Claim 6, wherein said sensor is an angular velocity sensor, and angle data is calculated from A/D-converted angular velocity data, and the calculated digital angle data can be output to the external equipment.

11. The audio signal processing device according to Claim 6, wherein said sensor is a velocity sensor or an acceleration sensor, displacement data is calculated from A/D-converted velocity or acceleration data, and calculated digital

displacement data can be output to the external equipment.

12. The audio signal processing device according to Claim 1, wherein a plurality of said A/D converters are provided, and processing of detection signals from the plurality of sensors detecting the state of motion of said listener is performed by said digital signal processing means.

13. The audio signal processing device according to Claim 5, wherein said output to the external equipment is performed through requests from the external equipment.

14. The audio signal processing device according to Claim 5, characterized in that said output to the external equipment is performed with a constant period.

15. An audio signal processing device, having digital signal processing means which performs virtual acoustic image localization processing such that an acoustic image is localized at an arbitrary position in the vicinity of the listener, by reproducing, by means of headphones or a plurality of speakers, output signals resulting from signal processing of input audio signals; wherein said digital signal processing means comprises

a one-bit quantizer which converts analog detection signals from a sensor which detects the state of motion of said listener into digital signals, and

control means which performs control so as to modify in realtime the transmission characteristics of said digital signal processing means, according to output signals from said one-bit quantizer.

16. The audio signal processing device according to Claim 15, wherein output signals from said one-bit quantizer or quantization error signals in said one-bit quantizer can be output to external equipment.

17. The audio signal processing device according to Claim 15, wherein output signals from said one-bit quantizer or control signals from said control means can be output to external equipment.

18. The audio signal processing device according to Claim 15, wherein output signals from said one-bit quantizer can be output to external equipment as digital detection signals converted into a different unit system.

19. The audio signal processing device according to Claim 15, wherein said sensor is a piezoelectric vibratory gyroscope which is an angular velocity sensor.

20. The audio signal processing device according to Claim 15, wherein said sensor is a geomagnetic direction sensor.

21. The audio signal processing device according to Claim 15, wherein said sensor is an inclination sensor.

22. The audio signal processing device according to Claim 18, wherein said sensor is an angular velocity sensor, and angle data is calculated from A/D-converted angular velocity data, and calculated digital angle data can be output to the external equipment.

23. The audio signal processing device according to Claim 18, wherein said sensor is a velocity sensor or an acceleration sensor, displacement data is calculated from A/D-

converted velocity or acceleration data, and calculated digital displacement data can be output to the external equipment.

24. The audio signal processing device according to Claim 15, wherein a plurality of said one-bit quantizers are provided, and processing of detection signals from said plurality of sensors which detect the state of motion of said listener is performed by said digital signal processing means.

25. The audio signal processing device according to Claim 17, wherein said output to the external equipment is performed through requests from the external equipment.

26. The audio signal processing device according to Claim 17, wherein said output to the external equipment is performed with a constant period.

27. An interface circuit, which supplies analog detection signals from a sensor as digital detection signals, comprising

an A/D converter which converts said analog detection signals into digital signals;

computation means which converts said A/D converter output signals into detection data in a prescribed unit system; and,

memory which stores detection data computed by said computation means; wherein

detection data stored in said memory can be read by external equipment, wherein

at least part of said A/D converter, said computation means and said memory are comprised within digital signal

processing means which performs signal processing of and outputs input audio signals.

28. The interface circuit according to Claim 27, wherein said A/D converter is a one-bit A/D converter.

29. The interface circuit according to Claim 28, characterized in that said one-bit A/D converter is a $\Delta\Sigma$-type A/D converter.

30. The interface circuit according to Claim 28, wherein said one-bit A/D converter consists of a quantizer, and analog detection signals from said sensor are directly input to this quantizer.

31. The interface circuit according to Claim 27, wherein said sensor is an angular velocity sensor, and said computation means outputs the detection data as angle data.

32. A signal processing device, wherein

an audio signal processing device is provided which, by reproducing, by means of headphones or a plurality of speakers, output signals resulting from signal processing of input audio signals, performs virtual acoustic image localization processing such that an acoustic image is localized at an arbitrary position in the vicinity of the listener, and

an image display device is provided which reproduces images before either one eye or both eyes of said listener;

said audio signal processing device comprising

digital signal processing means which performs virtual acoustic image localization processing of said input audio signals,

an A/D converter which converts into digital signals analog detection signals from a sensor which detects the state of motion of said listener, and

control means which performs control so as to change in realtime the transmission characteristics of said digital signal processing means, according to output signals from said A/D converter, and which performs control so as to update the display content or display position in said image display device; and wherein

at least part of said A/D converter is comprised within said digital signal processing means.